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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,071	02/07/2001	Eric Sven-Johan Swildens	UDN0005	4392

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EXAMINER	
PATEL, HARESH N	
ART UNIT	**PAPER NUMBER**
2154	

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/779,071	Applicant(s) SWILDENS, ERIC SVEN-JOHAN	
	Examiner Haresh Patel	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 February 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3 and 4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 are presented for examination.

Priority

2. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Load balancing Array System to decrypt SSL requests and perform SSL session scheduling".

Information Disclosure Statement

4. An initialed and dated copy of Applicant's IDS form 1449, Paper No. 3 and 4, is attached to the instant Office action.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 16, are rejected under 35 U.S.C. 102(e) as being anticipated by Zisapel et al. "Load Balancing", US Publication, 2002/0103846 A1, Aug. 1, 2002 (Hereinafter Zisapel).

7. As per claims 1 and 16, Zisapel teaches a process and an apparatus to implement the following:

routing packets through a load balancing array of servers across a network in a computer environment (e.g., router balancing load among cluster of servers over the network, figures 1A – 1C, paragraph 33, col. 3),

providing a plurality of load balancing servers (e.g., load balancing servers, figures 1A – 1C, paragraph 33, col. 3);

providing at least one back end Web server (e.g., content servers, S1, Sn, figures 1A – 1C, paragraph 33, col. 3);

wherein one of said load balancing servers is also a scheduler (e.g., LB1 load balancing server also scheduling client requests, figures 1A – 1C, paragraph 33, col. 3);

wherein a request packet from a client is routed through said scheduler (e.g., LB1 load balancing server also scheduling client requests for LB2 load balancing server, figures 1A – 1C, paragraph 33, col. 3);

wherein said scheduler routes and load balances said request packet to a load balancing server (e.g., LB1 load balancing server also scheduling client requests for LB2 load balancing server, figures 1A – 1C, paragraph 33, col. 3);

wherein said load balancing server routes and load balances said request packet to a back end Web server (e.g., LB2 load balancing server balancing load among content servers, S1, Sn, figures 1A – 1C, paragraph 33, col. 3);

wherein said back end Web server's response packet to said request packet is sent to said load balancing server (e.g., S1, Sn, content servers supporting client requests through LB2 load balancing server, paragraphs 8-10, col.1); and

wherein said load balancing server sends said response packet directly to said client (e.g., LB2 load balancing server forwarding response from content servers, S1, Sn, to the clients, paragraphs 8-10, col.1).

8. As per claims 2 and 17, Zisapel et al. teaches the following:

scheduler routes and load balances client requests to itself (e.g., LB1 load balancing server scheduling client requests for itself, figures 1A – 1C, paragraph 33, col. 3).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 3, 4, 7, 8, 13, 18, 19, 22, 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zisapel in view of "Official Notice".

11. As per claims 3 and 18, Zisapel does not specifically mention about the use of detecting the failure of said scheduler and electing one of said load balancing servers as the new scheduler. "Official Notice" is taken that both the concept and advantages of providing to detect the failure of said scheduler and to elect one of said load balancing servers as the new scheduler is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include detecting the failure of said scheduler and electing one of said load balancing servers as the new scheduler with the teachings of Zisapel in order to facilitate replacing of scheduler in an event of the scheduler failure. Upon failure of the scheduler, another load balancing server can take over scheduling task to assign servers for the client requests. The another load balancing server will then receive the client requests and will process them, i.e., schedule them according the scheduling algorithm.

12. As per claims 4 and 19, Zisapel does not specifically mention about the use of scheduler detecting the failure of other load balancing servers and said scheduler stops routing packets to any failed load balancing servers. "Official Notice" is taken that both the concept and advantages of providing scheduler detecting the failure of other load balancing servers and the scheduler stops routing packets to any failed load balancing servers, is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include scheduler detecting the failure of other load balancing servers and the scheduler stops routing packets to any failed load balancing servers, with the teachings of

Zisapel in order to facilitate assigning client requests to another load balancing server instead of the failed load balancing server. Stopping to route packets to the failed load balancing server would prevent dropping packets. Rerouting to the packets to the other load balancing server will help process the client requests.

13. As per claims 7, 8, 22 and 23, Zisapel does not specifically mention about the use of load balancing server decrypting and encrypting packet for an SSL session. "Official Notice" is taken that both the concept and advantages of providing load balancing server decrypting and encrypting packet for an SSL session, is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include load balancing server decrypting and encrypting packet for an SSL session, with the teachings of Zisapel in order to facilitate secure communicating between the client and the Web server. To process and forward the packet to the Web server, the load balancing server will decrypt the packet when it receives from the client. The load balancing server will receive the response packet from the Web server, and it will encrypt the response packet before sending to the client. Using well-known SSL session implementation, the web server and the client will have direct secure communication.

14. As per claims 13 and 28, Zisapel does not specifically mention about the use of detecting and stop routing request packets to failed back end Web servers. "Official Notice" is taken that both the concept and advantages of providing detecting and stop routing request packets to failed back end Web servers is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include detecting and stop routing request packets to failed back end Web servers with the teachings of Zisapel in order to facilitate accessing the other web server in an event of the web server failure. Upon failure of the web server, other web server will support the client requests. By stopping to route the packets to the failed web server will prevent packets from dropping and the client requests will then be handled by the other web server.

15. Claims 5, 6, 14, 15, 20, 21, 29, 30, are rejected under 35 U.S.C. 103(a) as being unpatentable over Zisapel in view of Masters 6,374,300.

16. As per claims 5, 6, 14, 15, 20, 21, 29, 30, Zisapel does not specifically mention about the load balancing server scheduling sessions to back end Web servers based on a cookie or session ID and use of cookie injection to map a client to a specific back end Web server.

It is well-known in the prior art, for example, Masters clearly teaches about the concept of load balancing server scheduling sessions to back end Web servers based on a cookie or session ID (e.g., use of cookie to persistently direct HTTP connections, abstract), and use of cookie injection to map a client to a specific back end Web server, modify URLs in the HTML page in a packet to serve them from said content delivery network, HTML pages that have modified URLs are cached to improve performance (e.g., four modes for employing the cookie to persistently direct HTTP connections, also use of priority, path and hops using cached information, abstract, col., 2, lines 24 – col., 4, line 34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Zisapel with Masters in order to facilitate scheduling

based on cookie for persistent connection with the web server. Using the cookie the client request can be routed to a previously selected destination web server associated with the client. The client will be able to continue using the same web server support. Using the Master's suggested cookie mode the cookie information can be manipulated as necessary. Hence, the client will be able to continue communicating with the server in a direct persistent manner, as suggested by Masters.

17. Claims 9-12, 24-27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Zisapel in view of "Official Notice" and Masters 6,374,300.

18. As per claims 9-12, 24-27, Zisapel teaches limitations rejected under claims 1 and 16. Zisaple also mentions about load balancing server establishes a connection with said client. However, Zisaple does not specifically mention about the client keeping connection alive with the load balancing server. "Official Notice" is taken that both the concept and advantages of the client keeping connection alive with the load balancing server, is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the client keeping connection alive with the load balancing server, with the teachings of Zisapel in order to facilitate secure communicating between the client and the Web server. Using well-known SSL session implementation, the web server and the client will have direct secure communication as long as the connection between the web server and the client is alive.

Zisaple does not specifically mention about URL based scheduling of packets and the load balancing server performing hash scheduling of packets. It is well-known in the prior art, for example, Masters teaches about URL based scheduling of packets, persistent connections in all its paths when required (e.g., scheduling of https packet containing URL information for the requested resource, col., 5, lines 22 – 59) and the load balancing server performing hash scheduling of packets and uses hash group based persistence to maintain its persistence tables (e.g., hash scheduling mechanism, e.g., col., 15, line 57 – col., 16, line 24).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Zisaple with Masters in order to facilitate secure communicating between the client and the Web server. URL information in the https packet would provide information of the resource, which the client needs to access. The hash scheduling of packets will provide direct secure communication between the web server and the client.

Conclusion

19. Examiner makes a very clear note that the rational of the applicant's invention has been clearly taught by several references. Applicant's invention does contain few minor additional matters that facilitate the concepts of the applicant's invention. However, the additional minor matters are well known in the art. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee, can be reached at (703) 305-8498.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

May 19, 2004